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"THE GREATEST POSSIBLE GOOD TO THE GREATEST POSSIBLE NUMBER."

VOL. I.

BEETON, ONTARIO, NOVEMBER 4, 1885.

No. 32

THE CANADIAN BEE JOURNAL.

PUBLISHED BY

D. A. JONES & CO., BEETON.

WEEKLY - - \$1.00 PER YEAR

POSTAGE—Free in Canada and the U.S. Ten cents per year extra to all countries in the Postal Union.

SPECIAL OFFER.

To any one sending us \$5.00 in cash, with the names of five subscribers, we will send for one year, one copy of the JOURNAL FREE.

To any one sending us \$3.00 in cash, with the names of three subscribers, we will send for six months, one copy of the JOURNAL FREE, or for one year by sending 40 cents additional.

To any one sending us \$2.00 in cash, with the names of two subscribers, we will send for three months, one copy of the JOURNAL FREE, or for one year by sending 60 cents additional.

ADVERTISING RATES.

All advertisements will be inserted at the following rates:

TRANSIENT ADVERTISEMENTS.

10 cents perline for the first insertion, and 5 cents per line for each subsequent insertion.

Space measured by a scale of solid nonpareil, of which there is twelve lines to the inch, and about nine words to each line.

STANDING ADVERTISEMENTS.

	3 MOS.	6 MOS.	12 MOS.
One inch.....	\$ 3.00	\$ 5.00	\$ 8.00
Two inches.....	4.50	7.50	12.00
Three inches.....	6.00	10.00	16.00
Four inches.....	8.00	13.50	20.00
Five inches.....	10.00	15.00	24.00
Six inches.....	12.50	20.00	30.00

TERMS—STRICTLY CASH.

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THE CANADIAN BEE JOURNAL

AND "Gleanings," semi-monthly..... \$1.95  
 " " "American Bee Journal," weekly..... 1.75  
 " " "American Apiculturist," monthly..... 1.75  
 " " "Bee-Keeper's Magazine," monthly..... 1.75  
 " " "Bee-Keeper's Guide," monthly..... 1.75

TO CONTRIBUTORS.

We will always be glad to forward sample copies to those desiring such.

The number on each wrapper or address-label will show the expiring number of your subscription, and by comparing this with the Whole No. on the JOURNAL you can ascertain your exact standing.

# "FOUL BROOD"

## Its Management and Cure.

BY D. A. JONES. NOW READY.

This little pamphlet is presented to the Bee-Keeping public with the hope that it may be the means of saving infected colonies from death by fire and otherwise. No expense is required to successfully treat the disease, other than the little time required for fasting.

Price, 10 Cents. By Mail, 11 cents.

D. A. JONES & CO., PUBLISHERS,  
Beeton, Ont.

## NOW IS THE TIME TO INVEST.

One Hundred Colonies of Italian Bees, and 4000 pounds Extracted Clover and Basswood Honey for Sale. Also want to exchange Italian Bees for a 4 or 5 or 6 Horse Power Engine and Boiler, new or second hand or will pay cash for Engine and Boiler. All kinds of hives made to order. Write for prices.

JAMES ARMSTRONG,  
Cheapside, Ont.

## THE NEW ONE-PIECE SECTION.

Though these sections cost more to make than the old style, still we are supplying them at the same price. We keep in stock 3 1/2 x 4 1/2 (ours), and 4 1/2 x 4 1/2 (Langstroth), and can make any other sizes to order on short notice. Prices:

Per 1,000.....	\$ 6 00
" 5,000.....	27 50
" 10,000.....	50 00

Sample sections sent on application.

D. A. JONES,  
Beeton, Ont.

## FARMERS BUY THE CELEBRATED LARDINE MACHINE OIL,

—AS IT—  
EXCELS ALL OTHERS.

Manufactured solely by

McCOLL BROS.,  
Toronto

## DADANTS FOUNDATION

is attested by hundreds of the most practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color evenness and neatness, of any that is made. It is kept for sale by Messrs.

- A. H. NEWMAN, Chicago, Ill.,
- C. F. MUTH, Cincinnati, O.,
- JAMES HEDDON, Dowagiac, Mich.,
- DOUGHERTY & MCKEE, Indianapolis, Ind.,
- CHAS. H. GREEN, Berlin, Wis.,
- CHAS. HERTEL, Jr., Freeburg, Ill.,
- E. L. ARMSTRONG, Jerseyville, Ill.,
- ARTHUR TODD, Germantown, Philadelphia Pa.,
- E. KRETCHMER, Coburg, Iowa,
- E. F. SMITH, Smyrna, N. Y.,
- C. F. DALE, Mortonville, Ky.,
- EZRA BAER, Dixon, Lee Co., Ill.,
- CLARK JOHNSON & SON, Covington, Ky.,
- KING, ASPINWALL & CO., 16 Thomas Street, New York.

C. A. GRAVES, Birmingham, O.  
and numbers of other dealers. Write for SAMPLES FREE and Price List of Supplies, accompanied with

### 150 COMPLIMENTARY

and UNSOLICITED TESTIMONIALS from as many bee-keepers in 2883. We guarantee every inch of our Foundation equal to sample in every respect.

CHAS. DADANT & SON,  
HAMILTON, Hancock Co., ILL.

## Beeton Printing & Publishing Co.

### FINE BOOK, JOB, & LABEL PRINTING

Send for our FREE "Honey Label" circular. Printed and furnished promptly, and neatly done. Estimated "circular" and other work on application.

F. H. MACPHERSON,  
Manager, Beeton, Ont.

3-t.f.

## 120 Colonies For Sale!

Having too many colonies on hand I will sell the above number, all in movable frame hives, in first-class condition for wintering, and insured against fire. Purchaser can winter them in my cellar without extra charge. Address:

J. B. LAMONTAGNE,  
Box 964, Montreal

## BEES FOR SALE.

100 colonies Italian Bees for sale cheap! Price \$7 or five for \$30. Originated from Doolittle and Root stock. Are full of bees, in Jones hives, on frames from wired foundation, with twenty-five pounds of stores, and made arrival guaranteed. References P. M., J. P., Mayor and station agent. Send for Price List of Hives and Supplies.

LEON E. DYER,  
Sutton, P. Q.

## GLASS JARS!

We have several gross of these jars ready for shipment by return freight or express, at the following prices:

		Gross.	Half gross
"Crown" brand"	1 Pint	\$14.75	\$7.50
" "	1 Quart	15.75	8.00
" "	1/2 Gallon	19.00	9.75

They are put up in half-gross cases—no charge for packing or cases.

D. A. JONES.

## BIG OFFER.

WE HAVE MORE COLONIES THAN WE CAN POSSIBLY CARE FOR, WITH THE EXTRA WORK ENTAILED BY OUR INCREASING SUPPLY BUSINESS. TO REDUCE OUR PRESENT STOCK WE WILL SELL

## 500 COLONIES

—AT FROM—

—\$7.00 TO \$8.00 EACH.—

STRONG AND IN GOOD CONDITION.

- Colonies containing 6 frames (all that we use to winter on) with good laying queen \$7.00
- Colonies containing 8 frames..... \$8.00
- Eight frames with extra fine queen... \$9.00

These prices are for delivery at once. We will make special arrangements with those who may want fifty or one hundred colonies. All our bees are ready for winter quarters.

D. A. JONES,  
BEETON, ONT.

# The Canadian Bee Journal.

D. A. JONES & Co., Publishers.

## OUR OWN APIARY.

### FEEDING HONEY FROM CAPPINGS.

**T**HIS Fall after the honey harvest failed we had several extractors full of cappings and the students thought it easier to let the bees pick out the honey than to get it out in any other way, so with a hand-cart they took it from the bee-yard to the factory grounds a distance of about 150 yards, and there spread it out on a large number of hive lids. Then they were at a loss to know how they were going to get the bees over to it, but they soon found that that was the easiest part of all. The operation of putting the cappings into the hive lids had scarcely commenced when a large number of bees came over to investigate, and before long several swarms had started from the apiary to the scene of action. In the bee-yard the air was filled with bees from the hundreds of colonies rushing about over all parts of the yard, even more thickly than if swarms were issuing. The disposition to rob was not seemingly so strong as the desire to find out where the honey mine was located, and as the thousands returned with their precious loads to the various hives it seemed to increase the energy of the rest to secure some too. Just then one of our neighbors happened to be preserving fruit and the house being on a line with the bee-house and factory the bees in passing to and fro caught the odor of the fruit and made a rush for the house. In a few minutes more than a swarm were clustering on the door sash trying to get through the cracks; while those inside flew to the windows and were let out. A mass collected on the sidewalk; but a few puffs from the smoker drove them away.

The whole air was alive with bees trying to enter every building in the neighborhood till they discovered where the sweets were. The lids were covered with bees rushing and tumbling over each other trying to get down to the cappings and it was astonishing to see the rapidity with which they removed the honey. After it was all taken up a little water sprinkled on the cappings furnished a fresh supply. This is an experiment which we would not advise anyone else to try as it seemed to disorganize the bees in the yard for several days, and we think it would have been as well if it had not been given them.

One of our men was employed the other day looking around the entrances of all the hives to see if any queens had died and had been dragged out; for if the ground is kept clean about the entrance to a hive the loss of a queen can be readily ascertained by watching around the entrance. It is a good plan to examine around the hives every day, it is also a good time now whenever the weather is suitable to make winter passage over tops of frames where they are to be wintered outdoors. It is well to do so anyway whether wintered out or indoors, as the few bees that get between the outside ranges of comb might otherwise be lost. If done before cold weather sets in the bees will not be disturbed when they go into winter quarters. Disturb them as little as possible when carrying them from their summer stands to the repository. It is better to have the preparation over as long before cold weather sets in as possible. The earlier in the fall the better in this part, farther south it might be postponed according to season, locality, etc.

FOR THE CANADIAN BEE JOURNAL.  
**THAT "ORGAN"**

**T**HIS is not the first time that "organs" have caused trouble and botheration. For some time back the name has been in bad odor amongst all independent and liberal minded

people, seeing what party politics have done with "organs." For myself I never liked "organs" of any kind (i. e. literary organs, not musical organs.) They are essentially narrow.

The question now up among Canadian bee keepers, or rather I suppose among the officers and members of the O. B. K. A., is whether they will have an "organ" in future, and if so what will be their organ. And as I with others am called upon to express an opinion on the subject I will now give my views for what they are worth.

In the first place I may say I think the *Canadian Farmer* and its successor the *Rural Canadian* have both faithfully and well performed their "organic" functions towards us. Any defects in the special department so liberally allotted to us were owing to our own shortcomings and neglect and not in any way to these papers so far as I know. Therefore, in parting from them—if part we do—there is no reason I know of why we should not part in perfect amity and friendship. So let it be.

Now to business. Why should we have an organ, that is an "official organ?" What do we need now in the shape of an organ more than we have except indeed the empty "official" stamp which is as "sounding brass and tinkling cymbal?" What is an "organ" but a medium of communication between a party, a confraternity? What was the object of the "official organ" of the O. B. K. A.? And what function did it perform? Why, its object was a means of instruction and communication between Ontario bee-keepers, and the function it performed was simply to open up this means of instruction and communication and keep a standing announcement of the names of the officials of the O. B. K. A. Now, it does seem to me that with the first issue of our CANADIAN BEE JOURNAL the necessity for an "official organ" then and there ceased. I may be wrong but this is how the matter appears to my mind. Why and how did the necessity cease with the establishment of our *Journal*? Simply because the CANADIAN BEE JOURNAL fulfils the conditions then required; affords the desired means of instruction and communication amongst Canadian bee-keepers,—in fine performs all the functions of the late "organs" and on a much more extended and enhanced scale. When the O. B. K. A. was organized there was certainly necessity for an official organ: there is none now. True, the same necessity exists now for an organ as did then, and we have it. Our organ has everything now but the official stamp, and that makes no difference one way or the another. The best stamp any journal can have is the stamp of approbation by its readers and

supporters. On this principle the C. B. J. is already stamped, for if I mistake not it has the hearty approbation of Canadian bee-keepers in general and the whole of the officers of the O. B. K. A. in particular. This is sufficient. So long as the C. B. J. continues to be published, and performs the same function for Canadian bee-keepers which it does now and in the same spirit of fairness, friendship and fraternity, so long will Canadian bee-keepers have all the organ—official or otherwise—which they require. Should the *Journal* cease to exist then it would be timely and necessary for Canadian bee-keepers to again seek an organ—that is a medium of instruction and communication.

In the rather tangled premises, I beg to make the following suggestion as a way out to open sea:—Our present name "The O. B. K. A." is too narrow. Let it be changed to "The Canadian Bee-Keepers' Association" so as to include every Canadian, bee-keeper from the Atlantic to the Pacific. I would not call it "the Dominion of Canada Bee-Keepers' Association" as has been suggested; that is too cumbrous a cognomen. It is not best in these days to lumber up titles any more than contexts with unnecessary words. The word Canadian covers the whole ground. Local associations could be affiliated with the Central organization on a judicious basis to be decided upon at annual meeting. The membership fee of the general organization ought to be reduced from \$1. to as low a sum as possible—just what would be necessary for the expenses of the organization. In the interests of the "Canadian Bee-Keepers' Association" (its growth and permanency) I do not think it would be wise to exact a large membership fee—larger than necessary—and then undertake to return a *quid pro quo* of any kind, whether a bee journal, an Italian queen, or anything else. What bonus would suit one would not suit another, and every one wants to spend his money as he sees fit. Why should bee-keepers be babies that they must have taffy offered them in the shape of discounts, queens, or anything else to induce them to join an association the advantages of which are obvious. The following single advantage of membership accruing to each and every member ought to be sufficient in itself to induce every prudent bee-keeper to join: In case of unjust legal proceedings against any member on account of alleged damage by his bees similar to the cases now pending in the U. S. let it be understood and provided that such member shall receive the united assistance of the Association in the unjust litigation forced upon him, and let it also be understood that any bee-keeper who does not think it worth while to join the Asso

ciation need not expect the assistance of the Association in such an emergency, and every bee-keeper who is worth having will join the Association.

These are my views and suggestions, all of which are respectfully submitted.

ALLEN PRINGLE.

Selby, Lennox County.

FOR THE CANADIAN BEE JOURNAL.

### PROBLEMS IN CONNECTION WITH THE WINTERING OF BEES.

1. How many cubic feet of carbonic acid will be produced per day by 200 colonies if each colony consumes 10 lbs. in 150 days?

In "Fowne's Chemistry for Students," American edition of 1853, page 323, it is stated that by actual experiment 4.75 grs. of crystallized sugar, on being oxidised, produced 7.31 grs. of carbonic acid and 2.75 grs. of water.

If 4.75 grs. of sugar produce 7.31 grs., 7000 grs., or 1 lb., will produce 10772.6 grs. of carbonic acid.

On page 325 of the same work we find that 100 cubic inches of carbonic acid weigh 47.26 grains.

If 100 cubic inches weigh 47.26 grains, 1728 cubic inches, or one cubic foot, will weigh 816.6 grains.

Since 10772.6 grains of carbonic acid are produced by one pound of sugar, and since there are 816.6 grains in one cubic foot, 13.3 cubic feet of carbonic acid will be produced by the consumption of one pound of sugar, and 200 stocks consuming 10 pounds each will produce 26600 cubic feet, or 177.3 cubic feet per day for 150 days.

2. How many cubic feet of aqueous vapor will be produced per day by 200 colonies, if each colony consumes 10 pounds of sugar in 150 days?

In the experiment above referred to, it was found that the oxidation of 4.75 grains of sugar produced 2.75 grains of water.

If 4.75 grains of sugar produce 2.75 grains, 7000 grains, or one pound, will produce 4052.6 grains of water. One pint, or 8750 grains, of water measures 34.66 cubic inches. Therefore 4052.6 grains of water will measure 16.05 cubic inches.

One cubic inch of water yields 1696<sup>9</sup> cubic inches of vapor at 212 degrees, but since the vapor from the bees is produced at about 70 degrees, we must make a correction for temperature. The rate of expansion is one four hundred and sixtieth of the volume, at zero, for each degree; (Fowne, page 49.) or 460 cubic inches at zero become 530 at 70 degrees, and at 212

degrees they become 672 cubic inches. Hence as 672 is to 530 so is 1696 to the number of cubic inches of vapor at 70 degrees, which we find to be 1337.6, and multiplying this by 16.05, the cubic inches of water produced by one pound of sugar, and dividing by 1728, we have 12.4 cubic feet of vapor produced by the oxidation of one pound of sugar; and 200 stocks consuming 10 pounds each, will produce 24800 cubic feet, or 165.3 cubic feet of vapor per day for 150 days.

3. How many cubic feet of atmospheric air per day will be required to oxidise the food consumed by 200 stocks of bees, if each stock consumes 10 pounds of sugar in 150 days?

We have already found that one pound of sugar produces 10772.6 grains of carbonic acid.

The combining proportion for oxygen is 16, and that for carbon is 12. As carbonic acid contains two equivalents of oxygen to one of carbon, the composition consists of 44 parts, 32 of which are oxygen and 12 are carbon. Hence in the carbonic acid produced by one pound of sugar there are 2937.9 grains of carbon and 7834.6 grains of oxygen.

But 8 grains of oxygen occupy 23.3 cubic inches. (Fowne, page 178.) Therefore 7834.6 grains will occupy 23302.8 cubic inches, which being divided by 1728 give us 13.2 cubic feet of oxygen as the quantity required to burn off the 2937.9 grains of carbon in one pound of sugar.

Since 20.81 cubic feet of oxygen are contained in 100 cubic feet of air, 13.2 cubic feet of oxygen will be contained in 63.4 cubic feet of air, which is the quantity required to oxidise the carbon contained in one pound of sugar. Two hundred stocks of bees, consuming 10 lbs. each in 150 days, will require a daily supply of 845 cubic feet of air for respiration, exclusive of the quantity required to dilute the carbonic acid and aqueous vapor so as to render them innocuous. An estimate of the quantity of air required for this purpose, its temperature and relative humidity, and the best means of introducing and removing it without draft perceptible to the bees, are matters of importance in arranging for the ventilation of a wintering repository, the discussion of which must be deferred for the present.

I have given the solution of these problems in detail, in order that the steps may be readily followed, and that errors, if there are any, may be easily pointed out.

S. CORNEIL.

Lindsay, Oct. 13th, 1885.

We can supply all the back numbers of the CANADIAN BEE JOURNAL at the present time, and we shall be pleased to send new subscribers all the back numbers if so desired

FOR THE CANADIAN BEE JOURNAL.

## THE HONEY SEASON IN NORTHERN IOWA

ANOTHER season has closed. "The harvest is passed, the summer is ended" so far as the bee-keeper is concerned. We are now able to look around, take account of stock and estimate our profits or our losses for the year. The season in this part of the world has not been a model one for the honey producer, and yet those who manipulated the little fellows skilfully have something to show for their summer's work. The forepart of the season was wet, cold and unfavorable for honey secretion and honey gathering. Basswood yielded fairly well, and most of the white honey secured was from that source. Scarcely anything was got from white clover. Fall flowers bid fair to give us a nice surplus, but just at what would have been the height of the season for this crop, we had two weeks or more of exceedingly cold and wet weather,—so much so that scarcely a bee left the hive. Of course while they are not producers they are consumers. The consequence was we had more unfinished sections than we counted on.

I began the season with 18 colonies; increased to 32 and have 1366 pounds of honey—829 extracted and 537 comb. This season I have used mostly, the  $4\frac{1}{2}$  by  $4\frac{1}{2}$  by  $1\frac{1}{2}$  inches white poplar sections, and the case method for comb honey. I think I shall continue to use the narrow sections. They average about three-quarters of a pound, look very neat, are finished faster and better by the bees, and sell to better advantage, than the two inch sections. The largest yield this season, was from an eight frame Heddon hive that did not swarm. That colony finished, in pretty good shape, 180 of these small sections, which retail at fifteen cents each. I use, not only the Heddon hive, but the Simplicity, and another one of my own make, about the size of the Heddon eight frame hive for comb honey and cellar wintering, and *don't* like the ten frame Simplicity, with metal corners and rabbets.

I have not extracted close. Think the bees have an abundance for winter. Have not fed a pound of sugar this year. Don't believe in it if it can be avoided. If we want the products of our apiaries to go to the consumers without suspicion we must cease to buy sugar by the dray-load. When sugar comes in at the gate by the barrel and honey goes out the same way, it will take a good deal of Christian living on the part of the bee-keeper to make all the people of his neighborhood believe that nothing but the nectar from the flowers is sold. Besides if the juice of the sugar cane were the only proper winter food for bees, this would, in the wise arrangements of

Providence, have been one of the principal honey plants. If the bees are starving, of course they should be fed; but to extract all the honey in the Fall, and then feed back sugar syrup to winter on, is, I think, not only useless, but detrimental to the best interests of the bee-keeper, for the reasons before mentioned.

EUGENE SECOR.

Forest City, Iowa, Oct. 19, 1885.

You are quite right about the bees filling narrow sections much faster than the broad ones. Any one who uses the former and gives them a fair trial, side by side with the latter will have little difficulty in deciding which they will use for all time to come. In our opinion sections an inch and a half wide will produce more dollars and cents for the bee-keeper than wide ones. We feed sugar syrup every year and have no trouble in satisfying everybody that our honey is pure either. The more we educate the consumers in regard to the management of bees the easier it will be to sell our crop, and the more confidence they will have in us.

## THE CANADIAN BEE PAPER.

QUESTIONS.—Your captious question, as to who were the publishers of the Canadian Bee Paper, is received. You are, doubtless, aware that it is published by yourselves. As there is no other bee-paper published in Canada, why is it not quite correct to speak of it as the Canadian bee-paper? We invariably speak of the *A. B. J.* as "the oldest bee-paper (or periodical) in America"!

Is it any worse to enumerate the Canadian bee-paper in our clubbing list, than for you to enumerate the "Texas Bee Keeper" in your clubbing list? That Texas bee-paper has been dead for three months and *never* was called by that name! "Those who live in glass houses should never throw stones," is a good old adage.

We have none but the best of feelings towards you and your paper, but you must "excuse us" from approving of your use of a name without permission which has cost us thousands of dollars.

Yours truly,

THOS. G. NEWMAN &amp; SON.

On page 472, stated that we had written the publishers of the *A. B. J.* for the name of the publishers of the

"Canadian Bee Paper" and above is their reply, which we have pleasure in publishing. We must apologise for having unintentionally called the *Texas Bee Journal* by the wrong name; the error, however, originated with the compositor who set it up. We had written the publishers of the *Texas Bee Journal* saying that we had not received any numbers of that journal for two months, and had not received any reply nor have we yet, and we did not like to cut it off our list without knowing definitely that they had suspended its publication. This part being explained, the rest we leave to the readers of the CANADIAN BEE JOURNAL, as to whether we have done right or wrong in the premises. We wished simply to have them understand whom the "Canadian Bee Paper" was published by. Whether the reasoning of the publishers of the *A. B. J.* is sound or otherwise, those who read may judge.

#### BULLETIN NO. 8.

##### WINTERING BEES.

THE importance of bee culture, as one of our national industries, is hardly appreciated. According to our well demonstrated modern philosophy, plants pour out their nectar as a sort of free coffee or lunch, to attract bees and other insects to a most important work in vegetable economy, the work of fertilization, which largely depends upon insects, and without which full fruitage is impossible. The simple work of gathering nectar then is indirectly of tremendous economic importance to the farmer and horticulturist, and so to our whole country.

Again, this nectar, when acted upon by the digestive juices of the bee, is converted into honey, a food long valued for its superior excellence, which, without bees, would be wholly lost; worse than lost, as we see from the fact stated above.

Bees, from their exceeding number and peculiar fitness for the work, are greatly superior to any and all other insects in the accomplishment of this fertilization of plants, while only the honey bees are abundant early in the season, and they alone save this valuable food element to

minister to man's good.

To show the activity of bees and their wondrous accomplishments, we have only to present well known facts. I find, by actual observation, that single flowers are sometimes visited by bees fifty times a day, and I have seen bees visit over twenty flowers a minute.

Mr. L. C. Root, of Mohawk, New York, (see *American Apiculturist*, Vol. III., page 197), extracted 4,103 pounds of honey on July 28th, 1885, collected from basswood, which had all been gathered by forty colonies of bees in just seven days. This is over 100 pounds per colony, and the daily stores of each colony exceeded fourteen pounds. During the same time we secured, here at the college, nearly half as much beautiful comb honey from single colonies.

I know of a farmer in this State,—a good farmer, with a farm of over 100 acres which he tills excellently well—who has kept bees six or seven years, and who, for the last three years, has had from sixty to eighty colonies; the cash receipts from these bees, during each of the last three years, exceeded those of the entire balance of his farm. During all these years this gentleman has never lost a colony of bees, till last winter, when one or two died of starvation. The same experience would be true of any farmer in almost any Michigan neighborhood; who would put the same thought, study, and energy into the business.

##### WINTER LOSSES.

The one great drawback in this industry is the danger of loss which comes with each of our severe winters, which are unpleasantly frequent of late. Last winter was one of the most severe. Judging from the experience of the last twenty years, these terribly cold winters may be expected about once in three years. If we may judge from the past, we may also safely assert that during these trying winters there will be a loss of from fifty to one hundred per cent of the colonies of bees in all the northern States. Such a loss as this, unless it can be prevented with ease and certainty, is too serious an obstacle in the way of success to be cheerfully endured, even by those in the most attractive and remunerative of employments, and it is generally to the praise of apiculture that, burdened with this loss, it has made such constant and rapid progress.

##### ARE SUCH LOSSES NECESSARY?

The fact that so many apiarists, like the one referred to above, meet with no loss, makes it clear that with full knowledge, followed by equal care and pains, this loss may be wholly prevented. Many of our best bee-keepers have no more fear of losing their bees than of losing their



cattle and horses. We, at the college, have met with no such loss for years.

#### POINTS TO BE CONSIDERED.

Bees are natives of a warm climate, which would lead to the conclusion that in rigorous climates they would need protection, especially at times of great cold. The fact that winter losses are never heard of in California and the south strengthens the argument, which seems almost demonstrated by the fact that our losses in the north always occur in winters of great and long continued cold.

Again, bees are very neat, and in confinement hold their fecal excreta, or try to till they can fly. If kept very quiet they eat very little—we have had single colonies of bees pass four and five months in the cellar without consuming more than four or five pounds of honey—and the food they do eat when thus quiet is largely, if not wholly of honey, and so there is very little waste. Thus when quiet bees need not fly to discharge their feces and so bear confinement for months with no harm. The best condition to maintain this needed quiet is uniform temperature, which experience has demonstrated to be about 45° F. I prefer the temperature about the hive to be kept at from 40° F. to 50° F. In a surrounding temperature much higher or lower the bees are disturbed, exercise much, eat more, and become diarrhetic.

From years of experience and observation it seems pretty well demonstrated that with enough good, wholesome food—30 lbs. of good honey or cane sugar syrup—and a uniform temperature as suggested above, our bees will winter invariably without loss.

#### DAMPNESS AND VENTILATION.

It would seem that a damp atmosphere, which, as we all know, is favorable to the growth and development of fungi, and inimical to health in higher animals, would be harmful to bees. It has been found however that in many cases, that even during the terribly disastrous winters like the past one, bees have wintered remarkably well in very damp cellars. Thus while we may presume that a very damp atmosphere is not the best, yet we may safely assert, other things being all favorable, that it of itself will not carry the seeds of mortality with it.

Ventilation has also been much discussed, and various theories have been offered. Yet the physiologist, and especially the physio-entomologist, will not be easily persuaded that insects whose functional activity is so slight, that a minimum of food supplies their wants stand in need of much air. One year at the College I sealed a large colony of bees with ice frozen

solid at the entrance of the hive, and yet the colony wintered exceptionally well. This colony remained for more than three months entombed in a snow bank. As the hive was glued or propolized at the top we can see that the ventilation was slight indeed. Thus physiology and experience both show that under the best conditions little heed need be given to ventilation. While bees do not hibernate in the sense of becoming totally inactive, yet they may and should have their vital activity kept at the minimum else they will need air and quite ample ventilation. As we have already seen, cold or heat—that is a temperature much below or above 45° F.—arouses bees, excites nutrition, and of course would necessitate more food and oxygen, and so more ventilation. Unless we can keep the bees then in just the condition to enforce quiet, we must arrange for ample ventilation.

It goes without saying, that the temperature inside a hive, in which bees are wintering, must generally be warmer than that outside the same. The fact that bees do not hibernate establishes this truth. The thermometer confirms it. We know that moisture is sure to collect on a cool surface; but water dripping upon bees cannot be healthful. The disturbance and the wetting would both be injurious. To winter bees then with the best success needs a covering that is not a good conductor of heat. Experiments on quite an extended scale have shown me that this is not all theory.

We see then that the requisites to success in wintering bees are: enough good food, uniform temperature without the hives at about 45° F., slight ventilation, and a cover to the hive which is a non-conductor of heat.

#### METHODS THAT HAVE SECURED SUCCESS.

##### Food.

The food may be either honey or cane sugar syrup. Any kind of honey, if wholesome and pleasant to the taste, will answer. Even last winter the bees at the college were wintered wholly on honey gathered in autumn, after the 25th of August, and all wintered well, and there was no sign of diarrhoea, except in a few cases where much pollen was left in the hives. Cane sugar syrup is quite as good, possibly superior to honey at times, as we can be certain that the syrup is free from deleterious elements. The syrup for winter food may be as condensed as possible, and yet it must not crystalize when cold. One-half to one-third as much water as sugar by weight is about right. A little honey added will also retard crystallization. A little tartaric acid is often used for the same purpose. It is best to feed quite early so all may be stored

and capped before winter's cold prevents further labor in the hive. Bees should never go into winter quarters with less than fifty pounds of food, which will always suffice from September till the harvest of the following summer.

#### *Important Suggestion.*

It is well to have all colonies reasonably strong in autumn, and soon after the first hard frost give each colony as few combs as possible and secure the requisite amount of honey. I prefer to use about six Gallup or Langstroth frames, and, by use of division boards, crowd the bees; then I cover warmly with sacks of fine, dry sawdust, made of burlap. This costs but little, and aids greatly to preserve the vital strength of the bees during the cold days of October and November and early the next season.

#### *Uniform Temperature.*

This is best and most cheaply secured by use of a good, dry (?), dark cellar. As a cellar is entirely or nearly all beneath the surface of the earth, it remains unaffected by the severest cold of winter or the more genial warmth of spring. The great requisite is that the temperature shall never go below 38 ° F., even during the most severe weather of our most rigorous winters, nor above 47 ° F. A good under-ground cellar will secure the former, but when many bees are put into our cellars it is not always so easy to secure against too great heat. There are two ways to accomplish this: First, by use of water in the cellar, and second, by means of under-ground or sub-earth ventilation. When a running stream from springs can be secured, it forms the most desirable moderating agency I know of. Such water is just about the proper temperature, and while it modifies against heat or cold, it also serves beautifully to dissolve impurities and sweeten the atmosphere. In lieu of such a spring or running water (underground tile are constantly carrying water into and out of our college bee-cellar) a good cistern answers well. The water in this is regulated by the usual temperature of the cellar, which is about that of the earth, and so in times of extreme cold or too great warmth protects the cellar against change. I know of such a bee cellar that passed the coldest weather of last winter with an east window constantly open, and yet the temperature was maintained at the desired point. Such an amount of latent heat stored up in a cellar cistern is a great safeguard, and is especially valuable when a great number of bees are placed in a cellar. Each colony generates some heat, and with a multitude, the heat, especially during a protracted warm spell in winter or spring, is apt to become ruinously excessive. Sub-earth ven-

tilation secures this moderating agency in air which comes to the cellar, cooled or heated by a long transit through an earth pipe, which runs many yards through the earth, beneath the influence of the outside temperature. To secure the necessary exchange of air and certain influx of the tempering atmosphere, a small-sized stove-pipe, preferably, of the kitchen stove above. This small pipe has its lower end open, while above it connects with the kitchen stove-pipe some distance above the stove, else the stove will not draw well, and will trouble from smoking. A second pipe of four or six inch tile also passes from the bottom of the cellar through the wall and thence beneath the frost line for one or two hundred feet through the earth, when it should come to the surface and the end be protected against vermin by use of a wire screen. We can easily see that whenever the kitchen stove is used—daily—the air is drawn from the cellar and the out-door air warmed in winter and cooled in spring and summer is drawn through the tempering soil into the cellar. I have known of this arrangement being tried in many cases, and always with the best results. If it is feared that water may enter the cellar through the sub-earth pipe the joints may be sealed by use of cement, or arrangements made to drain at the lowest point. This arrangement not only protects against extremes of temperature, but it serves to keep the cellar sweet. Mr. D. A. Jones, of Canada, builds above ground, when it becomes necessary to have his building double walled, with a 30-inch space filled in with sawdust, not only on the sides but above as well. Others dig a pit in a side hill. These methods are only inferior to a cellar in that they are more difficult to regulate. Mr. Jones not only has the sub-earth arrangement but he is forced to provide ice boxes in the warm days of spring in order to protect against too great warmth. In all these cases good, close double doors should be made, and the room should surely be mouse tight.

#### *Packing.*

Many bee-keepers have succeeded well by packing. Southard and Ranney, of Kalamazoo, have practised packing of single hives with marked success. They place a box about the hives six inches distant on each side. This space they pack very closely with straw. They also put a chaff sack in the upper chamber of the hive, are sure to have the covers on the hive close fitting, and then pack well above with straw, when they add a cover to keep the straw dry.

These gentlemen attribute their success to careful, thorough packing, and close covers above.

the bees and beneath the packing. The packing extends close down to the earth. A tunnel at the entrance permits the bees to fly if suitable weather entices them out. Others, like Mr. Bingham, of Allegan county, are very successful in the use of packing, but put six or eight hives close side by side and pack snugly about all. In this case the entrances all face out, and a tunnel at each hive permits flight. So many who pack lose their bees that I can but think the latter method named above is preferable for the average bee-keeper if either is to be practiced.

Many others use chaff hives and some with success. Such hives are expensive, cumbersome, and in view of the extensive losses by those using them I question their desirability. From the great saving of food consumed by the bees, and the comparative freedom from danger, I feel that cellar wintering is far preferable in this climate to all other methods. This conclusion is formed only after many years' careful experiment. Other methods may succeed; this with proper pains surely will.

#### Ventilation.

If the cellar is all right—surely so—the entrance to the hive may be left wide open in the cellar. If it become too cold less ventilation is imperative, if too hot, more may be required. But we must be sure to keep the temperature right. I feel positive that with the proper temperature we need not fear the presence of pollen or bee-bread in the hive. If the cellar become too cold or too hot, in either case the bees become disturbed, and then I feel certain after many experiments that the bees are safer with no pollen. Yet such a disturbed condition is always dangerous. The fact is we *must be able to control and must control the temperature.*

#### The Cover.

As already stated the cover should be a non-conductor of heat. Cloth with a filling of fine chaff or fine dry sawdust serves well. In winter I prefer to have a factory cloth over the bees and a burlaps sack full of dry saw-dust still above the cloth.

#### METHOD OF PROCEDURE.

As soon as we have a frost to stop storing I place six or eight frames where they are desired for winter. These should be nearly full of honey. Place a short stick above the frames at the center so the cloth can not fit close to the frames. This permits the bees to pass over. As soon as the brood is all hatched remove all other frames and pack well above and beside the bees. If we are to pack out doors do it now. From the 1st to the 20th of November, before the severe

weather, place the bees in the cellar, open the entrances, and remove the covers, but do not remove the cloth or burlaps sack. If the cellar is as described the bees will remain very quiet and free from diarrhoea. If they are in a poor cellar, and so become diarrhetic, it is best to remove them from the cellar for a few hours some warm day when they can fly out for a cleansing flight, and then return them to the cellar. It is always best when taking colonies from the cellar to place them on the same stands from which they were removed when carried to the cellar. We should not remove the bees finally from the cellar till they can go to work in the spring. In Central Michigan this is not before the 10th or 15th of April. In the spring when the bees are placed on the stands, I would clean all of the hives out thoroughly—this should be on a warm quiet day—and would remove frames of comb and move up the division board so that all the frames left will be covered with bees. We should also cover above and protect at the sides with ample packing. I have found that bees in single walled hives thus protected do as well in spring as those in chaff hives. As the bees increase more frames should be added, and so soon as the bees can protect the brood, the weaker may be strengthened by receiving capped brood from the stronger, but never so rapidly as to endanger the brood from chilling. Such has been our practice here at the College, and we have not been troubled by loss from "spring dwindling." I feel very sanguine that if the above suggestions are heeded winter losses will cease to vex our northern bee-keepers.

A. J. Cook.

Lansing, Mich.

From Prairie Farmer.

#### A COLONY OF DRONES.—AUTUMN PREPARATIONS.

I AM working in the apiary every pleasant day, preparing the bees for winter. Yesterday I found a curious colony—not so very small, but composed almost entirely of drones. There were perhaps fifty workers; their companions had worked themselves to death in rearing this useless horde, these shiny gentlemen of leisure. These drones were no doubt as good fathers as any, though they had been cradled in worker cells. The eggs of a queen that has never been fertilised hatch the same as others, yet the progeny will be all drones, though she deposits them in worker cells. The eggs of laying workers (im-

properly called fertile workers) also produced. When such a colony is discovered early in the season, it is best to remove the queen and substitute a good one, when the colony may be built up into full strength. As it was too late in the season with my colony for this the bees were brushed from the combs, those containing honey were placed in the caps of other hives, for the bees to carry the honey below. When it is all removed, the combs will be preserved for another season. A colony depopulated by reason of the loss of the queen, or a drone layer, is generally invaded by moths; many charge them with the destruction of the colony, when the true cause is the destruction of the queen.

It is delightful working in the apiary, during these warm, sunshiny October days, breathing the fragrance of the rustling, falling leaves. A great deal has been said *pro* and *con*, with reference to bee-culture as employment for women and invalids. A letter before me, from a very successful bee-keeper, says: "I am an invalid, and have been for the past thirty years—ever since I was sixteen years old—but bee-keeping has prolonged my life, and has given me new interest in living." Other letters on my desk, from women widely separated, show an increasing interest in this absorbing pursuit. Yesterday was rainy, and I tore up "Indian Head" into sheets to cover the bees. I picked off all ravelings, and piled them smoothly on a board, so they can be handled nicely, and free from wrinkles, when I use them. It adds greatly to the pleasure of bee-keeping to have everything ready for use before the bees are disturbed. The surplus honey has all been removed, and I take a wide chisel and scrape off all propolis and comb from the top of the frames, then I am ready for Hill's device.

This is placed over the frames and under the sheet, forming a chamber for the bees to cluster in, and permitting them to pass freely from one comb to another, even during a zero freeze. This prevents bees from starving with plenty of honey in their hives, as it is well known many of them do, they being unable to get to their stores without passing over icy combs. Corn-cobs or sticks might be used in lieu of it, when it is not to be had. Let the sheet be large enough so that when it is spread, the

cap or upper story shuts down upon it, thus preventing any possibility of a bee getting up. I have chaff cushions to put above the sheets of those hives wintered upon their summer stands, but if I was situated so I could procure it readily, I should prefer to have the chaff loose. Forest leaves or sawdust answer the purpose, where chaff is not to be had. I take a hot smoothing iron and run it around on the edges of the sheet to melt the propolis and stick it so fast that no bees can get out of any of the hives stored in the cellar, no upper storey being put on there. Little "comforts" made of cotton and muslin are spread upon the sheets, and the hives are set one upon another, with sticks at each end, to insure ventilation, and keep from breaking down the devices. Bees that are to be stored in the cellar will remain upon their summer stands until the middle of December, with chaff cushions above the frames. It is well to have all the internal arrangements of the hives completed during pleasant days so that the bees will be able to arrange matters to suit themselves before freezing weather.

MRS. L. HARRISON.

Peoria, Ill.

## QUERIES AND REPLIES.

UNDER THIS HEAD will appear each week, Queries and Replies; the former may be propounded by any subscriber, and will be replied to by prominent bee-keepers, throughout Canada and the United States who can answer from experience, as well as by the Editor. This Department will be reserved for the more important questions, others will be answered in another place. We hope to make this one of the most interesting departments of the JOURNAL.

### BEES PACKED IN CHAFF IN BEE-HOUSE.

QUERY No. 40.—Would bees winter safely in a bee-house so constructed that each colony would be enclosed with chaff or sawdust packing, the same as in a chaff hive, with arrangements to close the outside entrance tight on the approach of winter, and give them ventilation from underneath inside, where the cold winds cannot blow in upon the bees, even though the temperature inside the house might be nearly as low as that outside?

DR. C. C. MILLER, MARENGO, ILL.—I doubt it.

H. D. CUTTING, CLINTON, MICH.—Can see no reason why they should not.

M. EMIGH, HOLBROOK, ONT. — They might sometimes. I would prefer leaving the outside entrance open.

DR. DUNCAN, EMBRO, ONT.—If the temperature inside be as low or nearly as low they would winter better outdoors.

G. M. DOOLITTLE, BORODINO, N.Y.—It might work but where chaff packing is used should prefer to leave on the summer stand.

H. COUSE, THE GRANGE, ONT. — I would prefer leaving the entrances open and have them facing the south or east.

O. O. POPPLETON, WILLIAMSTOWN, IOWA. — Have never tested such an arrangement, but do not think it would be successful.

ALLEN PRINGLE, SELBY, ONT. — If I rightly understand the question I do not think it would be a good method of wintering.

B. LOSEE, COBOURG, ONT.—Bees require relief from cold such as warm sun or change of atmosphere; that they cannot get when enclosed in packed hives or houses.

S. T. PETTIT, BELMONT, ONT.—It is possible for them to winter well but not very probable. Doubtless they should be frost-proof. And then bees should not be closed in their hive.

P. H. ELWOOD, STARKVILLE, N.Y.—If nearly as cold inside then nearly as warm in a warm spell and there should be opportunity for them to fly out.

DR. A. B. MASON, WAGON WORKS, O.—They might winter safely, but if they are to be enclosed "the same as in a chaff hive," I should prefer leaving the entrance open, or partially so.

PROF. A. J. COOK, LANSING, MICH.—I should not feel safe unless the temperature immediately about the hive could be maintained at about 45° F. From 40° F. to 45° F. Why not have a good cellar, and be surely safe.

G. W. DEMAREE, CHRISTIANBURG, Ky.—We don't need any such "fixins" to winter our bees. If you will supply them with plenty of honey, a hive made of half inch boards is all the protection they seem to need in this climate, and it gets awful cold at times "you bet."

DR. J. C. THOM, STREETSVILLE, ONT.—I believe they would as long as the temperature kept low and uniform. Your trouble would arise in warm open winters, unless you had an ice house in close connection to keep the temperature in your house low.

P. C. DEMPSEY, TRENTON, ONT. — Why not if they are packed as Mr. Jones' recommends in clamps, if the necessary ventilation is provided; but in that case they will require to be looked after closely to prevent their entrance becoming clogged with dead bees. They would not have the chance to do that work themselves.

S. CORNEIL, LINDSAY, ONT.—Assuming that the air in the bee-house is as pure as the air outside I think they might winter safely. I think when all the other conditions are favorable bees in such hives may keep themselves warm all winter. I know of a case where over twenty stocks were placed in a cellar having water in it several inches deep. The water was frozen solid to the bottom, but the bees lived and were in fair condition in spring.

R. MCKNIGHT, OWEN SOUND, ONT.—If a bee house is properly constructed, it will be unnecessary to pack the hives as stated. Bottom ventilation, such as is provided in the old "Thomas" hive, would, I have no doubt, supply all the air necessary to the well-being of the bees if the entrance were closed up, but a sense of being imprisoned is not congenial to the feelings of either man or bees, therefore, I would not advise anyone to shut up the entrance throughout the winter.

J. E. POND, JR., FOXBORO, MASS.—I don't know, but I should hardly judge they would with certainty. This wintering question is the great and grave one with our northern apiarists. My experience is that all these fanciful theories come from beginners, or at least those of small experience. Experiments are all well enough, but they should be made on a scale of sufficient magnitude, and to cover a term of years sufficient to enable one to speak with certainty from the facts. The plan that works well one year, fails the next, and no one except Friend Heddon can say positively I can winter without loss; when he does it for a year or two I shall have more faith to believe than now.

BY THE EDITOR.—Such an arrangement might work if the bees were protected so as to keep an even and sufficiently warm temperature. Small colonies would be less likely to survive than large, strong ones. We would much prefer wintering in clamp, or with outside case around hive for out-door wintering and think the results would be fully as good if not better. The

warm sun shining in the entrance after a cold spell seems to revive the inmates of the hives very much.

## SUNDRY SELECTIONS.

### THE HERCULES CLUB TREE.

A. GILCHRIST.—The tree mentioned by your correspondent, Dr. J. C. Thom, I think is the Kentucky coffee tree, (*Gymnocladus Canadensis*). The flowers are whitish in racemes flowering in September and October, continuing for over a month. The flowers are over a foot across with large twice pinnate leaves. A rather peculiar tree. In fine weather bees are continually upon it. I believe it yields considerable honey. I have noticed this tree for some years past always attracting bees in great numbers. Friends in the south could give fuller information regarding this tree. Guelph is about its northern limit; in hard winters it gets injured and altho' last winter was the most severe for many years, still it came through unharmed, but the wood was well matured. The timber will be of no value to us as the size will not exceed six or eight inches. Further south it is a tall tree and the timber is valuable. For ornamental planting, its chief value consists in its flowering late when all other trees are done. It is the last flowering tree to which we say farewell, and we linger and look and think of six months of frost and snow before nature will unfold her beauties again. I will send a few trees with the late flowering basswood, also scores for grafting in spring.

Guelph, Oct. 15th, 1885.

Thanks, Friend G., for your promise of the seedlings in the spring. We will plant and note carefully the progress and the difference in time of blooming. Thanks also for your kind explanations as to the tree of which our worthy friend, Dr. Thom, wrote.

### A BEE HOUSE OR CAVE.

J. A. MANNING.—Do you think it would be advisable to feed colonies say 3lbs lighter than you wish them to be, with your winter feeder as described on page 33, vol. 1. C. B. J., on sugar syrup in the old style? What do you think of a bee-house made in the bank of a hill by digging out a hole say eight feet by ten, and about six feet deep covered over with something strong and the dirt piled up for a roof, having the entrance on the side-hill with a double door filled between with straw, an air tube going through the roof and a drain running out on the side-hill?

Parkhill, Oct. 19, 1885.

Certainly we would feed, and would use the top feeder if convenient; if not feed otherwise. If fed in bottom of hive it should be warm when placed in hive, and only fed as fast as they will take it up. We think the repository you speak of if well made, would winter them splendidly. Made in a side hill it could be kept at an even temperature more easily than if built above ground. The entrance had better be made four to six feet longer, if convenient; then three doors could be hung leaving two dead air spaces, It would be more convenient to pass in and out to examine the bees, than to have the entrance filled with straw. If the side hill is steep enough to put the entire cave level with the surface all the better. Make it high enough so that the bees may be kept from one to two feet above the cellar bottom, and yet have room to tier them up as high as you can place the hives.

### NO HONEY DEW—THE HONEY MARKET, ETC.

E. R. BULLER.—As you ask for reports I send you mine. I put into winter quarters last fall, Nov. 19th, forty-colonies and took out April 19th and 21st twenty-three alive, lost five by spring dwindling, cause of mortality honey dew of which there was abundant proof. I bought five-making twenty-three in all to begin the season. From 1st July to the middle of August extracted 1800 lbs. and have taken 300 lbs. of comb honey in one pound sections, increasing by natural swarming to fifty-five. Bees worked well on basswood for a week or ten days, the largest part of all honey taken being basswood. Buckwheat was almost a failure owing to cold weather. I am happy to say there has been no honey dew gathered, that being also a failure. I wish it might always be so. Most of my hives have plenty of good honey for winter stores. Three or four put more in the upper story than they could afford and had to be fed, but I think they are now all right. I notice the Listowel Association has shipped honey to the old country, which seems to me a step in the right direction. I should like very much to learn how the venture turns out. One or two favorable seasons would make honey so plentiful that it would be quite unobtainable unless we can find a foreign market. If anything ever causes me to quit the bee-business, it will be the difficulty in selling

the honey; not but what I have sold most of what I have raised yet at a pretty fair price, but I think if I had many tons it would be hard to get rid of it. I like the C. B. J. very much. No bee-keeper should be without it.

Campbellford, Oct. 21st, 1885.

The trouble in marketing honey which you speak of Friend B., is as yet only imaginary; there has not been as yet one single year in the history of honey production in Canada where the supply was *sufficient* for the demand, not to say anything of surplus. When we produce more than enough to supply the demand for home consumption we will then have to see about exporting to some other less fortunate market; the Colonial and Indian Exhibition at London, next year will open up to us the English markets. We hope to publish the result of the Listowel Bee-keepers' shipment as soon as they have had returns. In the meantime if every honey producer will strive to establish a local market for his honey, instead of rushing off with it to the cities, the cry of "over-production" will die out and be heard no more for years.

R. J. YOUNG.—I have built a brick cellar six feet by twenty-two feet. I have two tiles two and a half inches each through the wall; the tiles are three feet under ground. What I want to know is: if I run one pipe from one tile up the side of the house say eight feet above the ground will that give my bees enough air or not. I have eleven swarms to put in cellar and the same number in clamp.

Tilsonburg, Ont. Oct. 29, 1885.

We think there would be sufficient ventilation for eleven swarms, but we would prefer to have the pipe run from bottom of cellar out, you had better keep your bees up about three feet from cellar bottom. You might have made a drain and air pipe, both at the same time from bottom of cellar, but so long as you do not have many colonies in it, it will not matter much.

NORTH AMERICAN BEE-KEEPERS' SOCIETY, at Detroit, Mich., on December 8th, 9th and 10th, 1885. W. Z. Hutchinson, Sec., Rogersville, Genesee Co., Mich.

## THE CANADIAN BEE JOURNAL

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BEETON, ONTARIO, NOVEMBER 4TH, 1885.

In this issue of the JOURNAL we reproduce what is called "Bulletin No. 8," of the Agricultural College, Michigan, written by Prof. A. J. Cook, the well-known and highly esteemed author of "The Bee-keeper's Guide." The bulletin contains a lot of interesting and instructive matter, and will we are sure find many attentive readers.

THE ORGAN OF O. B. K. A.

Friend Pettitt writes us under date October 24th, "I have to say that my committee on organ etc., for O. B. K. A. have reported in favor of *Rural Canadian*." We have however received some further articles on the subject which will be found in this issue.

TESTING BEESWAX.

When beeswax is chewed it should have no disagreeable taste and must not stick to the teeth. In the adulterated wax, the nature of the foreign material can generally be detected by the taste; the addition of fat can generally be readily detected. If it sticks to the teeth, the presence of resin may be assumed. A simple method of detecting the presence of fat in wax consists in melting it, and placing a drop on a piece of woolen cloth. After it is perfectly cold and solidified, pour on a few drops of 90 per cent of alcohol and rub the cloth between the hands. The wax will be converted into dust, and will easily separate from the cloth if it contains no fat, and will leave no stain; when it contains fat it will leave grease-spots.—*British Bee Journal*.

### KIND WORDS FROM SUBSCRIBERS.

JOHN HILLIER.—I am well satisfied with the JOURNAL, and am trying to guide myself by it. Peterboro, Ont., Oct. 23rd, 1885.

E. T. ABBOTT.—I am much pleased with the JOURNAL.

ST. JOSEPHS, Mo., Oct. 20th, 1885.

C. H. LAKE, in the *Baltimore (Md.) List*, says: D. A. Jones & Co., Beeton, Canada, publish a superb weekly.

BEE LORE.

**H**ONEY is selling to-day as cheap as a good quality of molasses. Yet there are thousands of children throughout the land who never had a taste of honey.

Where one has limited capital and wishes to become an expert or a specialist, it is far better to begin on a small scale and gradually increase his number of colonies, making them pay their way and also furnish funds for new investments.

One of the most remarkable yields of honey ever heard of has just been gathered at an apiary near Riverside, Cal. The yield for the season from thirty-three hives was seven and a quarter tons, an average of 414 pounds to the hive.

HONEY MARKET.

CINCINNATI.

There is no material change in the market. Demand is slow for manufacturing purposes, while trade is fair in comb and extracted honey for table use. Arrivals are good. Extracted honey brings 4 to 8 cents on arrival, according to quality. Choice comb honey 14 to 16 cents in the jobbing way. Home demand for beeswax is fair, which brings 20 to 22 cents for choice yellow on arrival.

C. F. MUTH

Cincinnati, Sept. 12, 1885.

BOSTON.

Honey is selling very well but prices are very low, and we are often obliged to shade our prices in order to make rates. We quote 1 lb. comb, 14 to 16 cents. 2 lb. comb, 12 to 14 cents. Extracted, 6 to 8 cents.

BLAKE & RIPLEY.

Oct. 21, 1885.

ADVERTISEMENTS.

In purchasing articles advertised in the "Canadian Bee Journal" please mention in what paper you saw the advertisement. Advertisers always wish to know which advertise ments are most effective.

Five Per Cent. Discount.

Of all goods which may be ordered now for the next season we will give the above discount. This is to induce early orders and in case you need anything for this season, you could save freight charges and the discount by ordering ALL TOGETHER. Will be given till further notice.

D. A. JONES, Beeton, Ont.

COMB HONEY PACKAGES.

THAT HOLD SECTIONS OF HONEY 4 1/2 x 4 1/2 IN.



We call these in our price list "Honey Boxes for Sections." Each box has a nice tape handle, and when adorned with labels "A" or "B," which are made to fit this package, they look exceedingly attractive. The price for boxes is: per 1000, \$20.00; per 500, \$12.50. The price of labels will be, extra, per 1000, \$3.50; per 500, \$2.00; per 100, 45c.

In the blank space at the bottom of label (see cut) is room for name and address of producer, and these may be printed in at the following extra charge.

Per 100, 30c.; each subsequent 100 to 1000, 12c.; per 1000, \$1.25. Sample boxes, labelled, sent on receipt of a 3c. stamp.

D. A. JONES, Beeton, Ont.

Pure bred Pekin Ducks for sale. S. G. RUSSELL, Box 34, Thornbury, Grey County.

BEE SWAX WANTED.

We will pay 30 cents per pound in trade for good yellow Beeswax, delivered at our R. R. station. Give us a trial order and see if we do not please you.

J. B. MASON & SONS, Mechanic Falls, Me.

FOR RETAILING HONEY

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\$9 per 1000; printing, 50 cents extra. Large discount on big orders. Send stamp for sample and illustrated catalogue.

ASPINWALL & TREADWELL,

16 Thomas St., New York.

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Those who require to do feeding will find it to their advantage to have some of our

CANADIAN BEE FEEDERS

You can feed 15 to 20 pounds of syrup in one night, and there is no danger of robbing. The price is low, and the sale is very active. Our factory is running on them at the present time.

Made up, each.....	\$ 60
per 100.....	45 00
In flat, each.....	40
per 100.....	30 00

We can guarantee that they will give satisfaction.

D. A. JONES, Beeton, Ont.

J. P. CONNELL, Hillsboro, Hill Co., Texas, can fill orders for Pure Italian Queens by return mail. Untested Queens, \$1.00. Tested Queens, \$2.00. Send me your order and send for my circular of Queens, Nuclei and bees by the pound.



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High side-walls, 4 to 14 square feet to the pound. Wholesale and retail. Circular and samples free.

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These Knives are made of the Finest Razor Steel.

Ebony Polished Handle, mirror polish.....\$1 50  
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Are unsurpassed for **Quality** and fine **Workmanship**. A specialty made of all styles of the **Stimplicity Hive** including the **Van Deusen-Nellis**. The "**FALCONER**", **Chief Hive**, with movable upper story, continues to receive the highest recommendations as regards its superior advantages for **wintering** and handling bees at all seasons.

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**Red Clover Queens by Return Mail.**

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